

# **SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT**

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## **Preliminary Draft Staff Report**

### **Proposed Rule 2449 – Control of Oxides of Nitrogen Emissions from Off-Road Diesel Vehicles**

**November 2007**

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# **SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT**

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## EXECUTIVE SUMMARY

The South Coast Air Quality Management District (AQMD or District) is proposing to achieve additional emission reductions of oxides of nitrogen (NO<sub>x</sub>) from in-use off-road diesel vehicles by implementing the state regulation provision outlined in Title 13, California Code of Regulations (CCR), Section 2449.3, “Requirements for Largest Fleets to Achieve Additional Reductions of Oxides of Nitrogen”. This section of the regulation is also known as the Surplus Off-road Opt-in for NO<sub>x</sub> (SOON) program since an air district must formally opt-in to this provision and the NO<sub>x</sub> emission reductions must be surplus. The SOON program is one of the control measures in the 2007 State Implementation Plan adopted by the California Air Resources Board (CARB) in September 2007. Staff is recommending that the AQMD Governing Board opt-in to the SOON provision of the state rule to achieve additional NO<sub>x</sub> reductions from in-use vehicles. Staff is also proposing that the Board adopt Proposed Rule (PR) 2449– Control of Oxides of Nitrogen Emissions from Off Road Diesel Vehicles to incorporate by reference Section 2449.3 into the AQMD Rules and Regulations. In addition, staff is proposing additional administrative guidelines necessary to implement the SOON Program as required under Section 2449.3. The description of PR 2449, which simply incorporates the CARB regulation in full by reference, is provided in Appendix A.

Under the SOON program, incentive funds are provided to assist fleets in achieving additional reductions from off-road vehicles (e.g. repowers, replacement, and retrofits) beyond those that would be achieved with the state regulation. The AQMD Governing Board Administrative Committee approved a staff recommendation, pending full Board approval, for an initial set-aside of \$120 million over a four period to fund the SOON Program. Upon release of a solicitation, fleets over 20,000 hp that operate vehicles in the South Coast Air Basin, and have over 40% Tier 0 and Tier 1 vehicles in their statewide fleet as of January 1, 2008 must apply for sufficient incentive funds to meet the more stringent SOON NO<sub>x</sub> emissions targets. Fleets receiving funds must implement the projects for which they were awarded. It is anticipated that the \$120 million will be made available over the next four years (2008-2011) to implement projects for approximately 1,000 to 1,500 vehicles beyond those projects needed to meet the statewide regulation to achieve 12 tons per day (TPD) NO<sub>x</sub> reductions by 2014.

## INTRODUCTION

Despite the significant progress that has been made in reducing both mobile and stationary source emissions over the past several decades, the South Coast Air Basin (Basin) continues to experience poor air quality with mobile sources being the most significant contributors to the air quality problem. The Basin has the worst air quality in the nation for the 8-hour ozone and PM<sub>2.5</sub> federal ambient air quality standards. Since NO<sub>x</sub> emissions are important precursors to both PM and ozone formation, control of NO<sub>x</sub> emissions from all major source categories is critical to meeting the PM<sub>2.5</sub> and 8-hr ozone ambient air quality standards by 2015 and by 2024, respectively. Off-road diesel motor vehicles affected by this rule are the second largest source of NO<sub>x</sub> emissions at approximately 19% of the total basin-wide NO<sub>x</sub> emissions and have been relatively uncontrolled until very recently. Over the last decade, new models of off-road equipment have had to meet progressively cleaner emission standards. However, off-road diesel vehicles typically operate for many decades. As a

result, off-road diesel vehicle emissions are expected to remain high even with the availability of much cleaner new vehicles. Accelerating the rate of introduction of the newer cleaner engine technologies would provide a substantial fraction of the important and necessary NOx emission reductions.

## **BACKGROUND**

The Basin, which includes Orange County and the non-desert portions of Los Angeles, Riverside and San Bernardino Counties, is designated as non-attainment for PM<sub>2.5</sub> and severe-17 for ozone (proposed for reclassification to extreme) by U.S. EPA. Mobile sources emit significant amounts of both particulate matter and NOx in the Basin, as highlighted in the 2007 Air Quality Management Plan (AQMP). The 2007 AQMP identifies NOx emission reductions of 192 TPD (29%) in 2014 and 383 TPD (76%) in 2023 needed to meet the PM<sub>2.5</sub> and 8-hr ozone standards. The off-road diesel vehicle category is one of the largest sources of NOx emissions in the Basin as well as a significant contributor of PM<sub>2.5</sub> emissions. CARB, in recognition of the off-road diesel vehicles' large contribution of NOx and PM emissions, recently promulgated the "In-use Off-road Diesel Vehicle" regulation to control these emissions by requiring fleets to meet increasingly stringent fleet average NOx and PM targets or minimum BACT turnover and PM retrofit requirements. While CARB's regulation will achieve substantial reductions from this sector, additional NOx reductions are necessary in the South Coast Air Basin to attain the Federal PM<sub>2.5</sub> standard in 2015 and longer term reductions by 2023 to meet the 8-hr ozone standard.

To allow air districts to better address their regional air quality needs, CARB's regulation was designed with a voluntary opt-in provision (the SOON program). After an air district formally opts-in to the SOON program, it can use incentive funds to garner additional NOx emission reductions since fleets subject to the SOON program must meet more stringent SOON NOx fleet targets. In addition to providing incentive funds, the air district must develop administrative guidelines detailing additional requirements necessary to implement the SOON program, and obtain CARB approval of the guidelines. When an air district prepares a program announcement offering incentive funds under the SOON program, fleets with more than 40% Tier 1 and Tier 0 vehicles and over 20,000 hp that operate vehicles in the district must apply for sufficient incentive funds to meet the more stringent SOON NOx target levels. A fleet if awarded funding must implement the proposed projects as detailed in the application for funding.

The AQMD Governing Board approved the release of Program Announcement (PA#2008-01) on November 2, 2007 to solicit up to \$30 million of projects in 2008. An implementation working group was formed to provide input from stakeholders on the SOON program.

## **CONTROL TECHNOLOGY**

New off-road engines must meet certification standards that are designated by Tier based on their year of manufacture and their size. Currently most new engines must meet Tier 3 standards and have NOx emissions that are three to four times cleaner than the older uncontrolled engines that comprise approximately 50% of today's fleets. The Tier 4 engines due out in the 2014 timeframe will have NOx emissions 30 to 40 times lower than

uncontrolled engines. It is expected that most new engines funded in the SOON program will meet the Tier 3 standards or better.

NOx emission reduction options available for funding would include repowers where the existing engine is replaced with a new cleaner engine, vehicle replacement where the entire vehicle is replaced with a new vehicle, and retrofits where after-market add-on controls are used to control emissions. Initially, repowering is expected to be the predominant choice among fleet owners because of the relatively mature repowering market developed over the past several years from the successful implementation and funding of many repowers under the Carl Moyer Memorial Air Quality Program. However, replacement and retrofit projects are also expected to be awarded under the SOON program.

## LEGISLATIVE AUTHORITY

Proposed Rule 2449 implements the SOON provision of the state regulation as authorized in Section 2449.3 Title 13, CCR, and implies no additional authority beyond that granted in Section 2449.3, Title 13, CCR.

## SUMMARY OF PROPOSED RULE 2449

The purpose of PR 2449, “Control of Oxides of Nitrogen Emissions from Off-Road Diesel Vehicles”, is to implement the requirements of the SOON provision (once the AQMD Governing Board formally opts-in to the SOON program) of the CARB off-road diesel regulation (Title 13, CCR, Section 2449.3, “Requirements for Largest Fleets to Achieve Additional Reductions of Oxides of Nitrogen”). PR2449 would incorporate by reference Section 2449.3 into the AQMD Rules and Regulations. The description of PR2449 is provided in Appendix A. The following is a brief summary of Section 2449.3 and the full regulation is provided for information purposes in Appendix B.

- Applicable fleets include those with over 40% of their statewide fleet consisting of Tier 0 and Tier 1 equipment as of January 1, 2008, and operate individual vehicles in the Basin. [Title 13, CCR, Section(b)]
- Eligible SOON vehicle is a vehicle that has been used in the Basin for the majority of its operational time. [Title 13, CCR, Section(b)(2)(B)]
- When a program announcement for SOON funding is released, all SOON fleets must apply for incentive funds for the SOON portion of their fleet to meet the more stringent SOON NOx targets. Non-SOON fleets can voluntarily apply for SOON funding. [Title 13, CCR, Section(d)]
- Fleets must also submit a compliance plan with their SOON funding application. Compliance plan must include fleet information and subsequent actions taken by fleets on each vehicle each year for up to three years (to the next applicable SOON NOx target year 2011, 2014, 2017, 2020, or 2023), as well as all calculations and analyses necessary to show compliance with CARB’s base rule as well as the SOON program. [Title 13, CCR, Section(e)(3)]

- If awarded incentive funds, fleets must complete the actions for which they were funded. [Title 13, CCR, Section(d)(1)(E)]. The AQMD Governing Board approved the release of Program Announcement PA#2008-01 on November 2, 2007 soliciting projects for funding up to \$30 million in 2008.

## **SUMMARY OF PR2449 ADMINISTRATIVE GUIDELINES**

Pursuant to Section 2449.3(e)(7), any funding awards should be consistent with the Carl Moyer Program. The AQMD Governing Board has adopted specific policies and procedures to implement the Carl Moyer Program. The Carl Moyer Program Guidelines serve as the basis to implement the SOON Program. However, additional administrative guidelines are needed given the specific requirements of the SOON Program. The Draft Proposed Rule 2449 Administrative Guidelines are provided in Appendix C and summarized below are requirements beyond the most recent state Carl Moyer Program guidance.

1. Vehicle Qualification / Eligibility in SOON Fleet
  - Operation in the district is defined as operating in the district in the year immediately preceding the closing date of the active SOON program announcement.
  - Calculation of the 40% Tier 0 and Tier 1 fraction of the fleet is based on fleet equipment number and not fleet's total horsepower.
  - Fleets not subject to the SOON provision but choosing to participate must comply with SOON requirements for the life of the regulation.
2. Compliance Plan
  - Minimum reporting requirements for fleet information and fleet actions taken on fleets' vehicles to comply with statewide and SOON portions of the fleet are outlined.
3. Application
  - Minimum reporting requirements for fleet information, fleet actions on all equipment submitted for SOON funding, and project funding request for priority are outlined.
4. Operational requirements
  - Minimum contract duration (project life) is seven (7) years.
  - The historical annual hours of operation is defined as the average number of hours operated each year for the past two years immediately preceding the active SOON program announcement closing date.
5. Project Award
  - The majority of the project selection will be based on cost effectiveness for a majority of the funding (75%).
  - The remaining (25%) of funding will be used to fund the most cost effective project in all fleets that have not been awarded funding ensuring that all fleets receive funding for at least one project.
  - No fleet will receive more than 10% of the total funding available.

These guidelines will be reviewed on an annual basis from the date of their adoption and may be updated to reflect the most recent applicable Carl Moyer guidelines or other administrative or funding guidelines approved by the District Governing Board.

## **EMISSION BENEFITS**

The goal of the Proposed Rule 2449 is to reduce NOx emissions from in-use off-road diesel vehicles through the introduction and use of less polluting vehicles or engines. These emission benefits are expected to play a significant role in attaining the federal PM2.5 and 8-hr ozone ambient standard in 2015 and 2023, respectively. Title 13, CCR, Section 2449.3 is specifically based on achieving NOx emission reductions beyond those required by CARB's in-use off-road diesel vehicle base regulation. The emission benefits are primarily based on fleets' use of cleaner engine technology.

Based on the AQMD experience over the past several years with the Carl Moyer Memorial Air Quality Program, off-road equipment repowers have generally been performed at or below cost effectiveness level of \$5,000 per ton of NOx reduced. Based on the set aside of \$120 million (\$30 million/year over four years) for the SOON program, the NOx emission reductions associated with the SOON program are estimated to be 12 tons/day by 2014.

## **COST ANALYSIS**

The AQMD Administrative Committee approved a staff recommendation, pending full Board approval, to set aside \$120 million (\$30 million over 4 years) for the SOON program. The source of funding is expected to be from the Carl Moyer Memorial Air Quality Standards Attainment Program fund AB 932 and SB 1107 accounts (or other funding sources if available). Historically, the AQMD has received over \$50 million per year of Carl Moyer Memorial Air Quality incentive funds from CARB, and this funding level is expected to be maintained for the foreseeable future, ensuring that there will be sufficient funds available for the SOON program. Additionally, projects that meet a \$5,000/ton or better NOx cost-effectiveness would be funded first to achieve the expected NOx emission reductions of 12 TPD by 2014.

## **CALIFORNIA ENVIRONMENTAL QUALITY ACT**

AQMD staff has reviewed Proposed Rule 2449 and, in accordance with the California Environmental Quality Act (CEQA) and AQMD Rule 110, will prepare an Environmental Assessment (EA) with no significant adverse impacts pursuant to CEQA Guidelines §15252. While such a document may not be necessary due to CARB already performing an environmental analysis, an EA is being prepared as a precautionary step. Upon completion, the Draft EA will be circulated for a 30-day public review and comment period. All comments received during the public comment period will be responded to and incorporated into the Final EA. Prior to making a decision on the proposed project, the AQMD Governing Board must review and certify that the Final EA has provided adequate information on the potential adverse environmental impacts of the proposed project.



**PRELIMINARY DRAFT FINDINGS AND COMPARATIVE ANALYSIS**

Proposed Rule 2449 is part of the AQMD's strategy to attain federal and state ambient air quality standards. Long-term air quality benefits are expected from attaining and maintaining the ambient air quality standards for particulate matter. Improved air quality will ultimately reduce negative public health impacts from particulate matter.

Proposed Rule 2449 incorporates CARB's opt-in SOON program in order to achieve NOx emission reductions from off-road diesel-powered vehicles. The proposed rule addresses concerns raised by the public, wherever possible. Therefore, staff recommends the adoption of Proposed Rule 2449.

These findings are being made in compliance with state law requirements.

## **APPENDIX A**

### **PROPOSED RULE LANGUAGE**

November 16, 2007  
(PR2449A)

**Proposed Rule 2449                      Control of Oxides of Nitrogen Emissions from Off-Road Diesel Vehicles**

The provisions of Article 4.8, Chapter 9, Title 13 of the California Code of Regulations (CCR), Section 2449.3, in effect \_\_\_\_\_, were adopted in full by the South Coast Air Quality Management District on February 1, 2008 through the “opt-in” provision provided in the regulation and were made part of the Rules and Regulations of the South Coast Air Quality Management District.

The provisions of this Regulation apply to the owner and/or operator of any off-road diesel vehicle as described in Section 2449.3(b) operating in the South Coast Air Quality Management District. Upon District’s issuance of a solicitation for applications for funding, fleet owners and/or operators subject to Section 2449.3 shall submit applications for funding, in accordance to the Rule 2449 Administrative Guidelines developed to implement Section 2449.3.

**Title 13,**  
**Chapter 9**

**Motor Vehicles – Off-Road Vehicles and Engines Pollution Control Devices**

**Section 2449.3**

**Requirement for Largest Fleets to Achieve Additional Reductions of Oxides of Nitrogen**

(13CCR2449.3, \_\_\_\_\_)                      (Adopted \_\_\_\_\_)

## **APPENDIX B**

### **TITLE 13, CALIFORNIA CODE OF REGULATIONS, SECTION 2449.3 REQUIREMENT FOR LARGEST FLEETS TO ACHIEVE ADDITIONAL REDUCTIONS OF OXIDES OF NITROGEN**

(NOTE: This section of the California Code of Regulations is provided for reference purposes only. The regulation is taken from the California Air Resources Board website: [http://www.arb.ca.gov/msprog/ordiesel/documents/07-0904\\_DescDraftRegChangesWithAtt.pdf](http://www.arb.ca.gov/msprog/ordiesel/documents/07-0904_DescDraftRegChangesWithAtt.pdf) as of September 5, 2007. The California Air Resources Board has not released a final regulation as of the date of release of Proposed Rule 2449. )

### **2449.3 Requirement for Largest Fleets to Achieve Additional Reductions of Oxides of Nitrogen**

(a) **Purpose** – To achieve additional reductions of oxides of nitrogen (NO<sub>x</sub>) emissions from in-use off-road diesel-fueled vehicles in California. The reductions must be surplus to those that would otherwise be achieved through implementation of title 13, California Code of Regulations, section 2449, “Regulation for In-Use Off-Road Diesel Vehicles”.

#### **(b) Applicability**

(1) **District Applicability** -Section 2449.3 applies to any air quality management district or air pollution control district (jointly referred to hereafter as air district) whose governing board elects to opt into the provisions of this section as set forth in section 2449.3(f) below.

(2) **Fleet Applicability** – Section 2449.3 applies only to fleets that:

- (A) As of January 1, 2008, on a statewide level, consisted of more than 40 percent Tier 0 and Tier 1 vehicles, and;
- (B) Operate individual vehicles within the air district.

#### **(c) Definitions**

The definitions in title 13, CCR, section 2449(c) apply, along with the following definitions:

- (1) **Contract period** means the period of time in which the vehicle participates in the program and is under contract to the air district to achieve additional emission reductions.
- (2) **Operated within the district** means a vehicle that currently operates within the boundaries of the air district and, during the three years immediately prior to the solicitation deadline, operated at least one hundred hours per year and operated more hours within the boundaries of the air district than in any other district.
- (3) **Project** means actions on one vehicle to reduce NO<sub>x</sub> emissions, such as retrofit, repower, or vehicle replacement, for which funding is requested.
- (4) **Solicitation** means a public announcement by the air district, requesting that fleets submit grant applications to the air district to participate in emission reduction incentive programs under this section.
- (5) **Solicitation deadline** means the last day, as provided in the solicitation, that an application may be physically received by the air district.

#### **(d) Requirements**

- (1) If an air district, having held a public hearing and opted into this regulation,

issues a solicitation for applications for funding under this Surplus Off-road Opt-in for NOx (SOON) program, fleets that have a statewide fleet with maximum power greater than 20,000 horsepower (hp) and meet the applicability criteria of subsection (b) must, before the solicitation deadline, do the following:

- (A) **Report to District and ARB** – File a report of all information required under section 2449(g) with the air district and ARB on their total statewide fleet and that part of their fleet that has operated within the air district. If the solicitation deadline is before April 1, 2009, the fleet must provide information regarding the fleet as of January 1, 2008. If the solicitation deadline is on or after April 1, 2009, the fleet must provide the information that was reported to ARB on the most recent April 1 reporting date.
- (B) **Calculate NOx index** -Determine the NOx index for vehicles that operated within the air district for the year in which the solicitation deadline occurs according to the formula in section 2449(d)(1)(A)1.
- (C) **Calculate NOx target rate** -Determine the NOx target rate for vehicles that operated within the air district for the year in which the solicitation deadline occurs according to the formula in section 2449(d)(1)(A)1, and using the NOx targets set forth in Table 1 below. If there is no NOx target rate for the year in which the solicitation deadline occurs, the nearest future target rate should be used.

<b>Table 1: NOx Targets for each Max Hp Group</b>								
<b>Compliance Date: March 1 of Year</b>	<b>25-49 hp</b>	<b>50-74 hp</b>	<b>75-99 hp</b>	<b>100-174 hp</b>	<b>175-299 hp</b>	<b>300-599 hp</b>	<b>600-750 hp</b>	<b>&gt;750 hp</b>
2011	5.6	6.2	6.7	6.0	5.4	5.1	5.3	6.4
2014	4.9	5.1	5.2	4.7	2.8	2.7	2.7	4.2
2017	4.2	4.1	3.8	3.4	1.5	1.5	1.5	3.2
2020	3.5	3.2	2.4	2.2	0.9	0.9	0.9	2.6
2023	3.5	3.2	2.4	2.2	0.9	0.9	0.9	2.6

- (D) **Apply for funding** – Fleets for which the NOx index, as calculated in section 2449.3(d)(1)(B), is greater than the NOx target rate, as calculated in section 2449.3(d)(1)(C), must apply for SOON funding. The application submitted must be completed according to the guidelines and conditions established under the solicitation. Fleets must apply such that the NOx retrofits, repowers, or vehicle replacements for which funding is requested are sufficient to bring the NOx index for vehicles that operated within the air district from where it would have been under compliance with section 2449 to less than or equal to the NOx target rate calculated in 2449.3(d)(1)(C). On each SOON program project application, fleets must indicate whether they wish the project to receive high priority for SOON program funding.

The funding priority shall be determined under the air district guidelines developed per section 2449.3(f)(2).

- (E) **Achieve NOx reductions** – Fleets that receive SOON program funding must complete the actions for which they were funded per the conditions of the solicitation. Fleets that do not receive requested SOON program funding are not required to take actions beyond compliance with the in-use off-road diesel vehicle regulation, as specified in section 2449.
- (2) Fleets that meet the applicability provisions of section 2449.3(b)(2) but have a statewide fleet with maximum power less than or equal to 20,000 hp are not required to file a report with the ARB or the air district as required for larger fleets under section 2449.3(d)(1). They are also not required to apply for funding under subsection (d)(1)(D), but may do so if the NOx index calculated for their fleet operating within the air district exceeds the NOx target rate, and the fleet would like to qualify for funding. If the fleet's application is accepted, it must achieve the NOx reductions as set forth in subsection (d)(1)(E).
- (3) Air districts that opt into the SOON program must prioritize requested projects based on the optimum NOx cost-effectiveness and on whether the fleet requesting the SOON program funding requested high priority for SOON program funding. Air districts must report to ARB all projects funded under the SOON program, including the equipment identification number of all vehicles funded.

**(e) Special Provisions –**

- (1) **Accounting for the in-use off-road diesel vehicle rule** – Reductions achieved through the SOON program must be surplus, over the entire contract period, to those required by the "Regulation for In-Use Off-Road Diesel Vehicles". During the contract period, vehicles equipped with NOx retrofits, repowered with new engines, or that have been replaced using SOON program funding, cannot use this lower emission rate to calculate NOx indices, PM indices, NOx target rates, PM target rates, turnover credit and retrofit credit under section 2449. Instead, for the purposes of calculating NOx indices, PM indices, NOx target rates, PM target rates, turnover credit and retrofit credit under section 2449, these vehicles must be reflected as if the actions taken under the SOON program did not occur. Actions taken using SOON program funding may be used for determining compliance under section 2449 after the completion of the SOON program project contract period for that vehicle. For example, if a Tier 0 vehicle is repowered with a Tier 3 engine with SOON program funds, for purposes of compliance with Section 2449, that vehicle is still treated as if it were a Tier 0 until the end of the contract period for the SOON program project. If a fleet pays for a retrofit that is installed concurrently with a repower or vehicle replacement funded with SOON

program funding, the fleet may count the retrofit toward determining compliance under section 2449. If a fleet's vehicle is repowered using SOON program funding with a Tier 4 engine that comes with an original engine manufacturer diesel particulate filter, and if the fleet pays a portion of the repower costs such that it offsets the cost of an equivalent retrofit diesel particulate filter, the fleet may count the retrofit toward determining compliance under section 2449.

- (2) **Turnover in section 2449** -A fleet may apply to the Executive Officer for an extension from the requirements in section 2449(d)(2)(A) if, using the accounting provisions in section 2449.3(e)(1), section 2449(d)(2)(A) would require, prior to March 1, 2014, a fleet to turn over vehicles that are Tier 2 or better.
- (3) **Compliance plans** – Fleets applying for SOON program funding must prepare and submit to the air district along with their SOON program application a compliance plan laying out the actions they are required to take under Section 2449 and the actions for which they are applying for funding under Section 2449.3.
- (4) **Surplus** -Participation in the SOON program does not reduce the actions required for any fleet to comply with any requirements in the statewide in-use off-road diesel vehicle regulation under Section 2449.
- (5) **Tracking devices** – An air district may require any vehicle repowered, retrofitted, or replaced with incentive money through the SOON program to be equipped with a vehicle location device (per the air district's guidelines and conditions for receiving funding) to ensure that the vehicle is used in the air district for the required percent of operating hours.
- (6) **Particulate Matter Retrofits** -The exemption from retrofit requirements for engines in vehicles less than 5 years old in 2449(d)(2)(B)4.a. does not apply to vehicles that are replaced or repowered with SOON program funds.
- (7) **Funding Guidelines**-Projects funded under the SOON program with Carl Moyer program money must be administered consistent with applicable Carl Moyer program guidelines. If a project is funded from other sources, the SOON program must be administered consistent with any applicable guidelines. The air district shall develop guidelines for administration of the SOON program, as provided in Section 2449.3(f)(2).
- (8) **Vehicles Scheduled to Leave District** –A fleet that has operated within the air district as defined in section 2449.3(c)(1) but that is planning to move vehicles out of the air district such that the vehicles will not operate enough hours in the air district to qualify for SOON funding may leave such vehicles out of the NOx index calculation in section 2449.3(d)(1)(B), the NOx target rate calculation in section 2449.3(d)(1)(C), and the application for funding in section 2449.3(d)(1)(D). The fleet must submit a statement under penalty of perjury to the district for each such vehicle stating its intent to move each such vehicle out of the district.



**(f) Local Air District Opt-In**

- (1) To participate in the SOON program, an air district's governing board must hold a formally noticed public hearing, where public comment is taken, and, by majority vote, elect to opt into the program.
- (2) **District Guidelines** -An air district opting into Section 2449.3 must develop, through a public process including a duly noticed public workshop and formally noticed public hearing, additional administrative provisions necessary to implement this section, including, but not limited to, funding guidelines (as required under section 2449.3(e)(7)) and reporting and monitoring requirements. Funding guidelines may include limitations on the cost-effectiveness of projects that may be funded and must include the method used for prioritizing projects based on cost-effectiveness and whether applying fleets requested high priority for SOON program funding. Air district guidelines may include a pre-application process that collects vehicle data (model year, horsepower, hours of use) and then requires full SOON project applications only for vehicles likely to receive funding.
- (3) **ARB Approval of District Guidelines** -Before any guidelines, including administrative or funding guidelines, approved by an air district take effect, they must be approved by the Executive Officer. Air district staff shall submit proposed guidelines to the Executive Officer before they are acted on by the district's governing board. The Executive Officer will respond within 30 days with a description of any required changes to the proposed guidelines necessary for Executive Officer approval. In evaluating proposed air district guidelines, the Executive Officer shall consider, among other factors, the adequacy of cost-effectiveness criteria, whether fleet requests for high priority for SOON funding are given preference, and uniformity of district guidelines between air districts. After guidelines are adopted by a district's governing board, air district staff shall submit the adopted guidelines to the Executive Officer. The Executive Officer will respond within 30 days with approval or a description of any required changes to the guidelines.

## **APPENDIX C**

**DRAFT**

**PROPOSED RULE 2449 ADMINISTRATIVE GUIDELINES**

## **PROPOSED RULE 2449 ADMINISTRATIVE GUIDELINES**

### **INTRODUCTION**

Title 13, Section 2449 of the California Code of Regulation (CCR), “Emission Standards for In-Use Off-Road Diesel-Fueled Fleets,” was adopted by the California Air Resources Board (CARB) in July 2007. The regulation requires off-road diesel vehicle fleets to meet increasingly more stringent NOx and PM fleet average standards beginning in 2010 to achieve NOx and PM2.5 reductions. A provision of this rule (Title 13, CCR, Section 2449.3) allows air districts to opt-in and require the largest fleets to apply for funds to meet more stringent NOx targets, thereby achieving additional NOx reductions earlier. Emission reductions achieved must be surplus to those required from the statewide regulation (Title 13, CCR, Section 2449.1 and 2449.2).

The opt-in provision is also known as the Surplus Off-road Opt-in for NOx (SOON) program. If an air district formally opts-in to the SOON program, it is required to develop administrative and funding guidelines that outline additional provisions beyond existing guidelines such as the Carl Moyer Memorial Air Quality Standards Attainment Program (Carl Moyer Program) necessary to implement the SOON program. Pursuant to Section 2449.3(e)(7), any funding awards should be consistent with the Carl Moyer Program. The South Coast Air Quality Management District (AQMD) has adopted specific policies and procedures to implement the Carl Moyer Program. The policies and procedures for the implementation of the Carl Moyer Program will serve as the basis for the SOON program. Additional administrative or funding guidelines must be developed to implement the SOON Program. At a minimum, the additional guidelines must include project selection criteria, co-funding requirements, and reporting and monitoring requirements.

Proposed Rule (PR) 2449 – Control of Oxides of Nitrogen Emissions from Off-Road Diesel Vehicles, incorporates by reference Title 13, CCR, Section 2449.3 upon adoption by the AQMD Governing Board. The following sets forth additional guidelines as required under Title 13, CCR, Section 2449.3(f)(2). These guidelines will be reviewed on an annual basis from the date of their adoption and may be updated to reflect the most recent applicable Carl Moyer guidelines or other administrative or funding guidelines approved by the District Governing Board.

### **GUIDELINES**

The guidelines described below are proposed to be in addition to the Policies and Procedures for the Carl Moyer Program adopted by the AQMD Governing Board in October 2006 and would be finalized upon AQMD Governing Board approval. Any fleet that operates off-road diesel vehicles in the South Coast Air Basin as provided in Title 13, CCR, Section 2449.3(b) must apply for funding for those off-road vehicles operating a majority of the time in the South Coast Air Basin and would be surplus to the provisions of Sections 2449.1 and 2449.2, Title 13, CCR.

**A. Vehicle Qualification / Eligibility in SOON Fleet**

Pursuant to Title 13, CCR, Section 2449.3(b)(2), a fleet is subject to the SOON requirements if its statewide fleet consists of more than 40 percent of Tier 0 and Tier 1 vehicles statewide as of January 1, 2008, and operates individual vehicles within the district.

1. Percentage of fleet that is Tier 0 and Tier 1 is based on vehicle number and not horsepower.
2. Operated within the district is defined [Title 13, CCR, Section 2449.3(c)(2)] as a vehicle that currently operates in the district and for the three years immediately preceding the AQMD SOON program announcement deadline – usually the first Friday in May – operated more than 100 hours and operated more hours within the boundaries of the AQMD than any other air district.
  - Currently operates is defined as having operated or will operate in the AQMD during the year immediately preceding the active SOON program announcement deadline.
  - Operated more hours within the AQMD’s boundaries than in any other district means that the total number of hours operated in the AQMD’s boundaries in the three years immediately preceding the active SOON program announcement deadline are greater than the total hours operated over the same timeframe within any other single district’s boundaries.
3. Pursuant to Section 2449.3(d)(2) fleets with a statewide maximum power less than or equal to 20,000 (hp) are not subject to the SOON provisions, but may apply for SOON funding if they meet the applicability requirements and do not meet the SOON NOx targets. If the fleet does apply for SOON funding, it must continue to apply for SOON funding for the life of the regulation.

**B. Reporting Requirements – Compliance Plan**

Pursuant to Title 13, CCR Section 2449.3(e)(3), requires fleets applying for SOON funding to submit a compliance plan with their application. The compliance plan must describe actions the fleet must take to meet the fleet average and BACT requirements of the statewide regulation (Title 13, CCR, Sections 2449.1 and 2449.2) and actions for which they are applying to meet the more stringent SOON NOx fleet targets. Information that must be submitted as part of the compliance plan includes:

1. **Fleet Information –**
  - a. Information required as part of Title 13, CCR, Section 2449(g), for each vehicle and includes:
    - Vehicle type;
    - Vehicle manufacturer;

- Vehicle model;
  - Vehicle model year;
  - If vehicle is low use, specialty, dedicated emergency, dedicated snow removal, or is used for agricultural operations for over half of its annual operating hours;
  - If vehicle will be retired within one year; and
  - For each engine that propels the vehicle, the engine manufacturer, engine family (if any), engine serial number, engine model year, engine maximum power, type of retrofit emission control (if any), date installed, and its verification level.
- b. Information necessary to demonstrate that vehicle is not subject to AQMD SOON provisions:
- Vehicle operational time and location for past three (3) years
- c. If credit will be taken for early repowers, retirements, or retrofits fleet information must be submitted from the year of the earliest action to the current year for all vehicles used to generate the early credits.

## 2. **Fleet Actions –**

Sufficient information must be supplied in the compliance report detailing actions taken on each piece of equipment in a fleet to meet the statewide requirements as well as the actions necessary to meet the SOON NOx targets. As the SOON NOx targets are set every 3 years (2011, 2014, 2017, 2020, 2023), actions taken each year from the current year to the next future SOON NOx target date are needed. If credit will be taken for early repowers, retirements, or retrofits fleet actions taken before the current year must be submitted for all vehicles used to generate the early credits.

Information must include for each year and each vehicle:

- Action taken – retire, replace, repower, or retrofit
- For replacement all information listed in Section 2449 (g)(1)(B) for the new vehicle
- For repower information about the new engine including engine manufacturer, engine family (if any), engine serial number, engine model year, engine maximum power, type of retrofit emission control equipment installed (if any), date installed and its verification level.
- For retrofit type of retrofit emission control equipment, and verification level

## **C. Reporting Requirements – SOON Application**

### 1. **Application -**

Pursuant to Section 2449.3(d)(1)(D) a fleet must apply for sufficient funding to repower, replace, or retrofit vehicles so that the SOON portion of the fleet will meet or exceed the applicable fleet NOx target if all projects were funded. The application and all necessary information needed as part of the application are explained in the program announcement. Information required includes:

- Contact information
- Vehicle information (make, model, model year, etc.)

- Project life (minimum is 7 years)
- Project type
- Vehicle activity information (i.e. fuel usage, hours of operation)
- Cost information (including vendor quotes)

2. **High Priority Request -**

Pursuant to Title 13, CCR, Section 2449.3(d)(1)(D), fleets must designate for each SOON program project application whether they wish the project to receive high priority for funding.

## **D. Operational Requirements**

1. **Contact duration –**

Minimum contract duration or project life is set at seven (7) years unless otherwise noted in the program announcement.

2. **Hours of Operation –**

A project's annual hours of operation will be equal to the value of the average of the operational hours over the two years immediately preceding the active SOON program announcement deadline.

## **E. Project Award**

The first 75% of the available funding will be awarded strictly on cost-effectiveness criteria. A \$5,000 per ton of NOx reduced cost-effectiveness value will be used as the benchmark. Most projects are expected to be below this benchmark (i.e. will be more cost effective). The remaining 25% will be distributed to the most cost effective project presented by each fleet with the goal of funding at least one project per fleet. The funding will be distributed beginning with the most cost effective project presented by a fleet not having received funding in the first round, starting with the most cost effective project. If funding is available after all fleets have at least one project funded the remaining funds will go to the next most cost effective project available from all of the fleets. At no time will a fleet receive more than 10% of the available funding. Should the funding be depleted before a group of projects with the same cost-effectiveness value be completely funded the projects that requested priority funding will be funded first.